

APRIL 26 1994

## **Department of Fish and Game Comments on State Water Resources Control Board's Review of Standards for San Francisco Bay/Sacramento-San Joaquin Delta Estuary\***

The Department of Fish and Game (DFG) welcomes the opportunity to continue our participation in the State Water Resources Control Board (Board) process to review and set new standards for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Estuary). We are commenting as the Trustee Agency for fish and wildlife in the State of California (Section 15385, Public Resources Code) and as the State agency exercising administrative authority over the wildlife resources of the State under the Federal Fish and Wildlife Coordination Act [16c U.S.C. 661-667e]). Our present comments are consistent with our testimony during the Bay-Delta proceedings in 1987 and 1992.

To summarize the present situation: "The Delta is broken!" This was recognized by Governor Wilson in his April 6, 1992 speech on water policy. Most fish species dependent on the Bay-Delta Estuary for food, nursery habitat, and migration route are in decline. Adult striped bass have declined by 70%. Winter-run chinook salmon are less than 90% of their historical abundance while spring-run chinook are down 80% and the fall-run have decreased 50%. Starry flounder and bay shrimp populations also are severely depressed. Winter-run salmon and delta smelt have been listed under the Federal and State Endangered Species acts and the Sacramento splittail is likely to receive Federal listing.

Our more than 40 years of research in the Delta has established that many estuarine species are affected by annual water supply and water project operations. Notably, the decline of striped bass was anticipated before 1950 by DFG scientists who viewed the Central Valley Project (CVP) pumps, then under construction, as "a possible serious threat to the future welfare of the striped bass population" (Calhoun, Woodhull, and Johnson, California Fish and Game, 1950). Other delta dependent species in decline are obvious corollaries.

Many estuarine fishes are affected by the amount of fresh water flowing through the Estuary, particularly during their spawning and early nursery period. In general, native and important introduced fish species living within the brackish and freshwater portions of the Estuary exhibit a pattern of increasing abundance in response to higher Delta outflow during the winter and spring. Since there is no substantial compensating influx of marine fishes in dry years, the overall abundance of fish declined during the recent drought, particularly in San Pablo and Suisun bays. Hence, greater freshwater outflows and the associated movement of the salinity gradient downstream clearly benefits the entire estuarine ecosystem.

\* Presented by Perry L. Herrgesell, Ph.D., Chief of Bay-Delta and Special Water Projects Division, April 26, 1994.

The "broken" Delta also has costs associated with diversion of water from the delta especially by the Central Valley Project (CVP) and State Water Project (SWP). These costs include the direct loss of fish entrained in diverted water and disruption of fish migrations and nursery habitat resulting from flow patterns caused by exporting water from the southern Delta while most of that water originates in the Sacramento River.

Thus, we emphatically support efforts to develop a comprehensive habitat-based approach to the maintenance and restoration of the ecological health of the Bay-Delta Estuary, and stand ready to advise the Board regarding standards consistent with that approach.

### Key Issues

To address the key issues of this workshop:

- 1) Which standards should the Board focus on during this triennial review?

The DFG recommends dealing only with standards that affect fish and wildlife. These are the most controversial standards and they are the standards most crucial to restoring a healthy aquatic ecosystem. Consideration of other standards at this time would detract from this important goal. This recommendation is consistent with your identification of the highest priority issues being those for which the U.S. Environmental Protection Agency (USEPA) is now proposing standards.

While we believe that the scientific case for salinity-based water quality criteria as proposed by USEPA was well developed by the San Francisco Estuary Project, we believe that from a cause and effect standpoint, in some instances, such as those associated with transport of young fish and losses of fish entrained in water diversions, it generally will be more effective to regulate outflow and exports--factors in the realm of the Board's authority--rather than salinity. In other cases, such as standards to maintain the Suisun Marsh, salinity criteria definitely are more appropriate.

- 2) What level of protection is required by the California Water Code and the Clean Water Act for protection of public trust uses in the Bay-Delta Estuary?

The important long-term level of protection goal established by the Board should be to assure maintenance of a healthy aquatic ecosystem. We believe this goal should reflect public trust responsibilities as well as the specific laws guiding your decision. We support development of a level of protection by setting goals that are tested so that effects are then thoroughly analyzed and, when feasible, understood as much as possible before it is finalized.

DFG believes that attaining an agreed-upon level of protection will require eventual changes in the Delta facilities used by the CVP, SWP, and other diverters to manage and deliver water. We believe that the Governor's Bay-Delta Oversight Council (BDOC) is an appropriate forum for evaluating such changes. Hence,

restoration of the ecosystem cannot be achieved entirely within the scope of the triennial review, but must be a principal long-term objective.

As we stated during the 1992 hearings (WRINT-DFG Exhibit #8), the interim goal of the present proceedings should be to halt the decline in aquatic populations and at least begin their recovery. This is consistent with Governor Wilson's expectation that the interim standards for the Estuary provide "protection for fish and wildlife." To stop declines and move toward recovery, the Board should initiate efforts now which will lead to a fully functioning, healthy aquatic ecosystem.

We believe that one measure the Board should analyze to make interim progress towards halting decline and starting recovery is to set an ecosystem goal of reaching fish populations that existed during the late 1960s and early 1970s. For example, restoration to these conditions would improve the striped bass population from its current level of about 625,000 fish to 1.7 million fish. From our viewpoint, such an interim target is conservative. It is still shy of the Central Valley Project Improvement Act mandated goal of 2.5 million adult striped bass and well under the roughly 3 million adults actually present in the early 1960s and set as the goal for DFG's Striped Bass Restoration and Management Plan for the Sacramento-San Joaquin Estuary. We will also recommend that other planning efforts (i.e. BDOC) strive to attain goals mandated by these acts and plans. X

While, the USEPA proposed standards are a step toward achieving the goal of late 1960s-early 1970s populations, we are concerned that the USEPA proposed standards do not--and by their nature, cannot--address the need for year-round protection of the habitat and fish populations of the Estuary. For example, some of the benefits gained through improved habitat proposed by USEPA from February through June would be diminished by inadequate protection during the remainder of the year. Our studies since the 1960s (summarized in WRINT-DFG Exhibits 2 and 3) have established that striped bass year-class strength is modified considerably by environmental conditions during subsequent months. Also, while we anticipate some incidental benefit to the three other chinook salmon races from actions taken to meet fall-run salmon smolt survival criteria, the timing of migration and residence in the Delta of these other races is sufficiently different to justify race specific, year-round protective criteria.

A reaffirmation of the Suisun Marsh Standards should also be considered during the triennial review. Meeting these standards will require the continued use of existing Plan of Protection facilities such as the Suisun Marsh Salinity Control Gates, as well as future proposed facilities when the western most salinity control stations come into effect. In combination with meeting criteria to address aquatic resources, a comprehensive ecosystem approach for the Estuary will be ensured.

- 3) What are the principal environmental effects of USEPA's draft standards? Should these standards, or modified versions of these standards be considered as alternatives in this review?

The standards proposed by USEPA would improve fisheries habitat from February through June, but as we have stated, standards will have to be mutually developed by the State and Federal government that can provide better protection for the ecosystem by dealing with the year-round impacts of outflow and water export.

The USEPA proposals move fish nurseries farther away from the fish-unfriendly delta diversions. However, while the EC criteria to freshen the San Joaquin River upstream from Prisoners Point during April and May would expand spawning and nursery habitat of striped bass (and, probably, other estuarine species), that protection would be countered to some degree by increased losses to water diversions. Overall, we conclude that the proposed water quality criteria will reduce the rate of decline but cannot result in restoration of the estuarine ecosystem unless implementation includes restriction of exports, year-round standards, and other habitat protection strategies. Such actions are consistent with an ecosystem, multi species approach.

Any evaluation of environmental effects of USEPA's proposed standards for the Estuary should include a full evaluation of the potential to impact upstream water quality standards. Specifically, DFG wants to insure that adequate carryover storage is maintained in all affected reservoirs. High water temperatures resulting from reservoir drawdowns could result in substantial loss of salmon or steelhead production. DFG has made recommendations to the SWRCB for minimum pool volumes at Shasta, Oroville, and Folsom reservoirs which we believe will provide temperature protection (WRINT-DFG Exhibits 15, 25, 30).

We believe the Board's review should consider a range of alternatives including the USEPA proposals or appropriate modifications. Including USEPA proposals is relevant because: 1) USEPA has disapproved certain water quality criteria previously adopted by the Board because these criteria failed to protect estuarine habitat and other designated fish and wildlife uses, and 2) USEPA has proposed specific alternative criteria.

Thank you for the opportunity to comment. We look forward to working with the Board and its staff in its deliberations.